

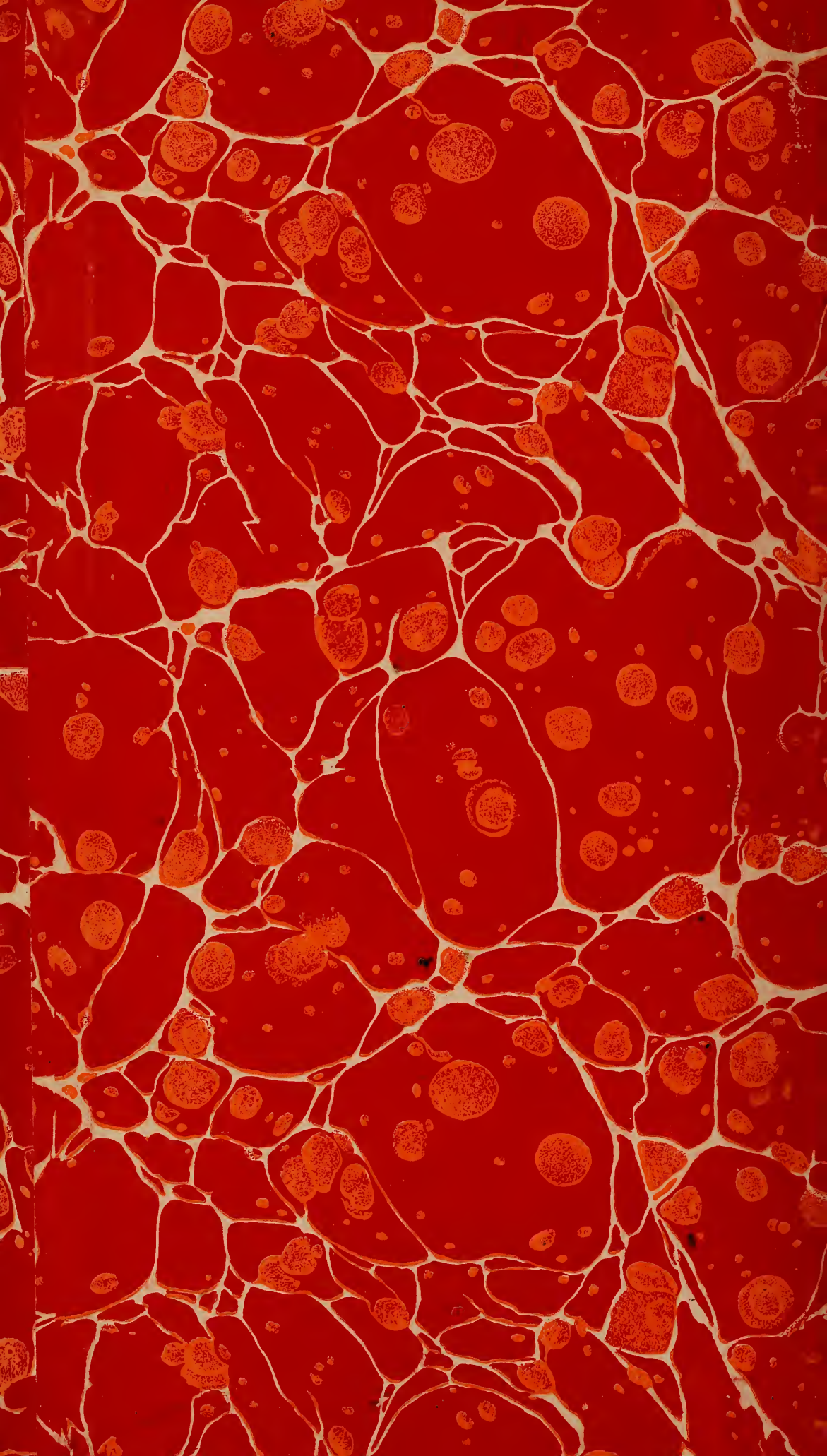
A11100 044460

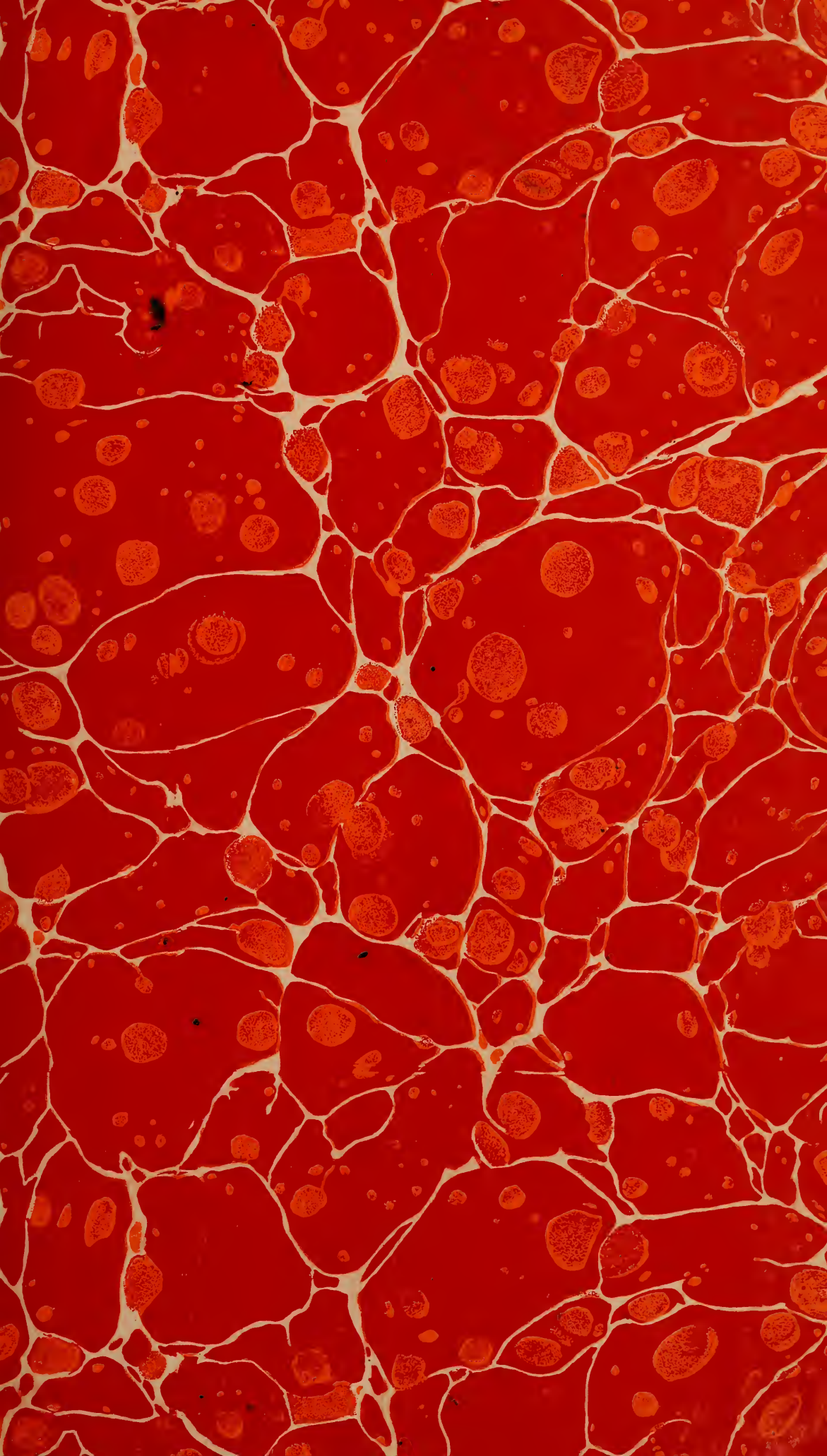
NAT'L INST OF STANDARDS & TECH R.I.C.



A11100044460

/Bureau of Standards Journal of research
QC1 .U52 V9:1932 C.1 NBS-PUB-C 1928





INDEX TO VOLUME 9

A	Page
Aberrations of lenses, RP466.....	187
Absorption of sound by air, RP465.....	175
Absorption spectra, chromium dichromate, RP476.....	353
Acken, J. S., J. G. Thompson and, Determination of alumina and silica in steel by the hydrochloric acid residue method, RP496.....	615
Adhesion of mortar to brick and steel, RP504.....	749
Air, sound absorption of, RP465.....	175
variation with pressure, of intrinsic energy, RP503.....	733
Alloy steels, creep in, at elevated temperatures, RP481.....	441
Alloys, nickel-chromium-iron, tensile properties of, at elevated temperatures, RP474.....	327
Alumina, determination of, in steel, RP496.....	615
Aluminum nitride, effect of, in residue analysis, RP496.....	615
Ammonium bromosmate, density of, RP471.....	297
preparation of, RP471.....	279
Ammonium chlorosmate, density of, RP471.....	279
preparation of, RP471.....	279
Amplifier for feeble pulses, RP461.....	115
Amyl bromide, normal, physical constants of, RP482.....	457
purification of, RP482.....	457
synthesis of, RP482.....	457
Analysis of lanthanum spectra, RP497.....	625
Analysis of solutions containing rhodium and iridium, RP489.....	547
Analysis of weighted silk, RP498.....	669
Analysis, residue methods of, in steel, RP496.....	615
Angle variation, RP493.....	583
Arc spectra, infra-red, photographed with xenocyanine, RP473.....	309
Areas of reinforcement bars, RP486.....	509
Artichokes, hydrolysis of, RP495.....	597
Atomic weight of osmium, RP271.....	279
Audio-frequency amplifier, RP461.....	115
Axial loading of fatigue tests of steel, RP454.....	9

B

Barbrow, L. E., and J. Franklin Meyer, Characteristic equations of vacuum and gas-filled tungsten-filament lamps, RP502.....	721
Barometric pressure, effect on sound absorption of air, RP465.....	175
Basic chromium chromate, RP476.....	353
Beams, brickwork, reinforced, shear tests of, RP504.....	749
Bennett, Harold F., The reciprocal spherical aberration of an optical system including higher orders, RP466.....	187
Benzoinoxime, use of, RP453.....	1
Blackburn, George F., Paul T. Hannen, Melville F. Peters and, Theory of voltage dividers and their use with cathode ray oscillographs, RP460.....	81
Boeckner, C., Radiation from caesium and other metals bombarded by slow electrons, RP478.....	413
—, Variation with angle of emission of radiation from metals by slow electrons, RP493.....	583
Bond for reinforced brickwork, RP504.....	749
Bond strength of brick masonry to steel, RP504.....	749
Bond strength of mortar to brick, RP504.....	825
Boric oxide, binary system with lime, RP510.....	749
Brick, bond of mortar to, RP504.....	749
Brick masonry, reinforced, RP504.....	749

	Page
Brooks, H. B., and A. W. Spinks, A multi-range potentiometer and its application to the measurement of small temperature differences, RP506.....	781
Bruun, Johannes H., and Mildred M. Hicks-Bruun, Note on the freezing point of "iso-octane" (2, 2, 4-trimethylpentane), RP469.....	269
—, —, Note on the probable presence of 2, 2-dimethylpentane in a midcontinent petroleum, RP458.....	53
Buckingham, Edgar, Notes on the orifice meter: The expansion factor for gasses, RP459.....	61

C

Cæsium discharge, collisions of the first and second kind in the positive column of, RP485.....	493
power input and dissipation in the positive column of a, RP455.....	25
Calcium borates, optical properties and melting points of, RP510.....	825
Calcium oxide, binary system with boric oxide, RP510.....	733
Carbon dioxide and oxygen mixtures, variation, with pressure, RP503.....	733
Carlson, Elmer T., The system: CaO-B ₂ O ₃ , RP510.....	825
Carroll, Burt H., and Donald Hubbard, The photographic emulsion; variables in sensitization by dyes, RP488.....	529
Ceramic bodies of low absorption maturing at temperatures below 1,000° C., a study of, RP483.....	473
Ceramic ware, expansion of, RP472.....	291
Characteristic equations of lamps, RP502.....	721
Chase, W. D., J. A. Mathews, R. F. Jackson and, Analytical methods for the determination of levulose in crude products, RP495.....	597
Chrisler, V. L., and Catherine E. Miller, Some of the factors which affect the measurement of sound absorption, RP465.....	175
Chromic acid, structure, RP476.....	353
Chromium deposition, theory, RP476.....	353
Chromium dichromate, structure, RP476.....	353
Chromium sulphate, state in chromic acid, RP476.....	353
Cobalt, infra-red arc spectrum, RP473.....	309
Coff, R. M., C. G. Weber and, Register studies in offset lithography, RP480.....	427
Collisions of the first and second kind in the positive column of caesium discharge, RP485.....	493
Column curves and stress-strain diagrams, RP492.....	571
Color sensitization, RP488.....	529
Columns, strength of, RP492.....	571
Composition and density of glass, RP507.....	799
Conductivity of chromium dichromate solutions, RP476.....	353
Considere-Engesser theory of column failure, RP492.....	571
Cosmic rays, deflection of, by a magnetic field, RP509.....	815
Constructing platinum resistance thermometers, TP508.....	807
Counters, Gelger-Müller, RP509.....	815
Creamer, A. S., R. F. Geller and, "Moisture expansion" of ceramic whiteware, RP472.....	291
Creep in alloy steels, RP481.....	441

	Page		Page
<i>Cummings, A. D.</i> , The influence of temperature on the evolution of hydrogen sulphide from vulcanized rubber, RP 464.....	163	Freezing point lowering, of chromium solutions, RP476.....	353
<i>Curtiss, L. F.</i> , A vacuum tube amplifier for feeble pulses, RP461.....	115	Freezing point of iso-octane, RP469.....	269
<i>Curtiss, L. F.</i> , Deflection of cosmic rays by a magnetic field, RP509.....	815	Freezing point of octane, RP469.....	269
		Fruits, analyses of, RP495.....	597
D		G	
Decane, normal, physical constants of, RP482.....	457	Gage, Whittemore, attachment of, to specimen, RP463.....	131
purification of, RP482.....	457	Gages, strain, Whittemore, RP463.....	131
synthesis of, RP482.....	457	<i>Gardner, I. C.</i> , An attachment for turning approximately spherical surfaces of small curvature on a lathe, RP467.....	227
Deformation of chromate ion, dichromate ion, RP476.....	353	Gas-filled tungsten lamps, equations of, RP502.....	721
Density and composition of glass, RP507.....	799	Gases, expansion factor for, RP459.....	61
Density of lime glasses, RP507.....	799	intrinsic energy, measurement of, as function of pressure, RP487.....	521
Dimethylpentane in petroleum, RP458.....	53	P—V—T data for, RP470.....	271
Dimethylpentane, infra-red absorption spectrum, RP458.....	53	variation, with pressure, of intrinsic energy of, RP503.....	733
Dividers, voltage, for cathode ray oscillographs, RP460.....	81	Guarded field ionization chamber, RP505.....	769
theory of, and their use with cathode ray oscillographs, RP460.....	81	Geiger-Müller counters, RP509.....	815
Dodecane, normal, physical constants of, RP482.....	457	<i>Geller, R. F.</i> , and <i>A. S. Creamer</i> , "Moisture expansion" of ceramic whiteware, RP472.....	291
purification of, RP482.....	457	— and <i>D. N. Evans</i> , A study of some ceramic bodies of low absorption maturing at temperatures below 1,000° C., RP483.....	473
synthesis of, RP482.....	457	— and <i>Herbert Insley</i> , Thermal expansion of some silicates of elements in Group II of the periodic system, RP456.....	35
Dyes, photographic sensitizing, RP488.....	529	Generators, high voltage, RP491.....	561
		<i>Gilchrist, Raleigh</i> , A method for the separation of rhodium from iridium and the galvanometric determination of these metals, RP489.....	547
E		—, A new determination of the atomic weight of osmium, RP471.....	279
Earthenware, expansion of, RP472.....	291	Glass, composition and density of, RP507.....	799
Efficiency of tungsten lamps, RP502.....	721	Glass electrode, application in chromic acid, RP476.....	353
Electrode, metal connected glass, RP511.....	833	metal-connected, RP511.....	833
Electrometric titration of chromic acid, RP 476.....	353	Glasses, density of lime glasses, RP507.....	799
Electron radiation, RP478.....	413	<i>Glaze, F. W.</i> , <i>J. C. Young</i> , and <i>A. N. Finn</i> , The density of some soda-lime-silica glasses as a function of the composition, RP507.....	799
RP493.....	583	<i>Gough, C.</i> , <i>L. R. Sweetman</i> , <i>A. H. Stang</i> and, The areas and tensile properties of deformed concrete-reinforcement bars, RP486.....	509
Electrophoresis, basic chromium chromate, RP476.....	353	Green chromic dichromate, nonexistence, RP476.....	353
Elevated temperatures, creep of steels at, RP481.....	441	Green chromium sulphate, in chromic acid solution, RP476.....	353
Empirical column formulas compared with Considère-Engesser theory, RP492.....	571	Grenz ray measurements, RP505.....	769
Emulsions, photographic, RP488.....	529		
Endurance properties of steel, RP454.....	9	H	
Energy, intrinsic, of gases, measurement of, RP487.....	521	Half value layer, X rays, RP475.....	333
Equations of tungsten lamps, RP502.....	721	<i>Hamilton, E. H.</i> , <i>J. G. Thompson</i> and, Nitrogen content of some standard-sample steels, RP494.....	593
<i>Evans, D. N.</i> , <i>R. F. Geller</i> and, A study of some ceramic bodies of low absorption maturing at temperatures below 1,000° C., RP483.....	473	<i>Hannen, Paul T.</i> , <i>George F. Blackburn</i> , <i>Melville F. Peters</i> and, Theory of voltage dividers and their use with cathode ray oscillographs, RP460.....	81
Expansion factor for gasses, RP459.....	61	<i>Harris, Milton</i> , The isoelectric point of silk, RP490.....	557
Expansion, moisture, of ceramic whiteware, RP472.....	291	Heat of formation of hydrogen chloride, RP499.....	679
Expansion of ceramic ware, RP472.....	291	Helium, infra-red spectrum of, RP462.....	121
Expansion of earthenware, RP472.....	291	Helix, inductance of, RP479.....	419
Expansion, thermal, of lead, RP500.....	703	Heptane, normal, physical constants of, RP482.....	457
of some silicates of elements in Group II of the periodic system, RP456.....	35	Hexane, normal, physical constants of, RP482.....	457
Expansion of whiteware, RP472.....	291	purification of, RP482.....	457
		synthesis of, RP482.....	457
F		<i>Hicks-Bruun, Mildred M.</i> , <i>Johannes H. Bruun</i> and, Note on the freezing point of "iso-octane" (2, 2, 4-trimethylpentane), RP469.....	269
Factor, expansion, for gasses, RP459.....	61	—, —, Note on the probable presence of 2, 2-dimethylpentane in a midcontinent petroleum, RP458.....	53
Fatigue limits of coated steels, RP454.....	9		
Fatigue testing, notch effect in, RP454.....	9		
Fatigue testing of steels, RP454.....	9		
<i>Finn, A. N.</i> , <i>J. C. Young</i> , <i>F. W. Glaze</i> and, The density of some soda-lime-silica glasses as a function of the composition, RP507.....	799		
Floors, light-weight steel, RP463.....	131		
<i>France, R. D.</i> , <i>W. H. Swanger</i> and, Effect of zinc coatings on the endurance properties of steel, RP454.....	9		
<i>Frandsen, Mikkil</i> , <i>Frederick D. Rossini</i> and, The calorimetric determination of the intrinsic energy of gases as a function of the pressure. Data on oxygen and its mixtures with carbon dioxide to 40 atmospheres at 28° C., RP503.....	733		
<i>Frankland, J. M.</i> , and <i>H. L. Whittemore</i> , Tests of cellular sheet steel flooring, RP463.....	131		

	Page
Hidnert, Peter, and W. T. Sweeny, Thermal expansion of lead, RP500.....	703
High pressures, accurate method for measurement of, RP470.....	271
High temperatures, tensile properties of cast nickel-chromium-iron alloys and alloy steels at, RP474.....	327
High voltage generators {RP475..... {RP491.....	333 561
High voltage measurements {RP475..... {RP491.....	333 561
Hoffman, James I., The determination of magnesia in phosphate rock, RP484..	487
Honey, analyses of, RP495.....	597
Hubbard, Donald, Burt H. Carroll and, The photographic emulsion; variables in sensation by dyes, RP488.....	529
Humidity, effect of, on sound absorption of air, RP465.....	175
Hydrocarbons, normal, physical constants of, RP482.....	457
purification of, RP482.....	457
syntheses of, RP482.....	457
petroleum extraction of, with liquid sulphur dioxide, RP501.....	711
xylene, in petroleum, RP501.....	711
xylene isolation of, from petroleum, RP501.....	711
Hydrochloric-acid residue method for steel, RP496.....	615
Hydrogen chloride, calculation of some thermodynamic data for, RP499.....	679
Hydrogen chloride, heat of formation, RP499.....	679
Hydrogen ion concentration, effect on chromium deposition, RP476.....	353
Hydrogen ion concentration of chromium chromate solutions, RP476.....	353
Hydrogen sulphide, rate of evolution from vulcanized rubber, RP464.....	163
I	
Inductance of helix, RP479.....	419
Infrared arc spectra photographed with xenocyanine, RP473.....	309
Infrared spectra of helium, RP462.....	121
Insley, Herbert, R. F. Geller and, Thermal expansion of some silicates of elements in Group II of the periodic system, RP456.....	35
Intrinsic energy of gases, variation of, with pressure, RP503.....	733
Ionization chambers, RP505.....	769
Iridium, determination of RP489.....	547
Iridium dioxide, hydrolytic precipitation of, RP489.....	547
Iridium, separation of rhodium from, RP489.....	547
Iridium sulphate, preparation of solutions containing, RP489.....	547
Iron, determination of molybdenum in, RP453.....	1
infra-red arc spectrum of, RP473.....	309
Isoelectric point, basic chromium chromate, RP476.....	353
Isoelectric point of silk, RP490.....	557
Iso-octane, freezing point of, RP469.....	269
J	
Jackson, R. F., J. A. Mathews, and W. D. Chase, Analytical methods for the determination of levulose in crude products, RP495.....	597
Jordan, Louis, William Kahlbaum and, Creep at elevated temperatures in chromium-vanadium steels containing tungsten or molybdenum, RP481.....	441
—, —, Tensile properties of cast nickel-chromium-iron alloys and some alloy steels at elevated temperatures, RP474.....	327
Joule-Thompson coefficient, calorimetric measurement of, RP487.....	521
K	
Kahlbaum, William, and Louis Jordan, Creep at elevated temperatures in chromium-vanadium steels containing tungsten or molybdenum, RP481.....	441

	Page
<i>Kahlbaum, William, and Louis Jordan</i> , Tensile properties of cast nickel-chromium-iron alloys and some alloy steels at elevated temperatures, RP474.....	327
<i>Kasper, Charles</i> , The structure of chromic acid plating bath; the theory of chromium deposition, RP476.....	353
<i>Kessler, D. W., and W. H. Sligh</i> , Physical properties and weathering characteristics of slate, RP477.....	377
<i>Kiess, C. C., William F. Meggers and</i> , Infra-red arc spectra photographed with xenocyanine, RP473.....	309
<i>Knowles, H. B.</i> , The use of α -benzoinoxime for the determination of molybdenum, RP453.....	1
L	
Lamps, characteristic equations of, RP502.....	721
tungsten, gas-filled, RP502.....	721
tungsten vacuum, RP502.....	721
Lane and Eynon method, modification of, RP495.....	597
Lanthanum, an analysis of spectra, RP497.....	625
Lanthanum spectra, RP468.....	239
Lathe, attachment for turning spherical surfaces on, RP467.....	227
Lead, detection of, in weighted silk, RP498.....	669
thermal expansion of, RP500.....	703
Lens grinding tools, attachment for turning on lathe, RP467.....	227
Lenses, aberrations of, RP466.....	187
Levulose, determination of, RP495.....	597
Light, infra-red, absorption by xylenes of, RP501.....	711
Lime, binary system with boric oxide, RP510.....	825
Lithographic papers, RP480.....	427
Lithography, factors affecting register, RP480.....	427
register of prints, RP480.....	427
Low voltage X rays, RP505.....	769
Lugs, effect of, on tensile properties of bars, RP486.....	509
M	
<i>McBurney, J. W., A. H. Stang, D. E. Parsons and</i> , Shear tests of reinforced brick masonry beams, RP504.....	749
Machined reinforcement bars, tests of, RP486.....	509
Magnesia in phosphate rock, RP484.....	487
Magnetic deflection, RP509.....	815
<i>Mair, B. J.</i> , The synthesis, purification, and certain physical constants of the normal hydrocarbons from pentane to dodecane, of <i>n</i> -amyl bromide and <i>n</i> -monyl bromide, RP482.....	457
Manganese silicates, recovery of, by residue analysis, RP496.....	615
Manganous oxide, recovery of, by residue analysis, RP496.....	615
Masonry, brick, reinforced, RP504.....	749
Mathews formula, RP495.....	597
<i>Mathews, J. A., W. D. Chase, R. F. Jackson and</i> , Analytical methods for the determination of levulose in crude products, RP495.....	597
<i>Mease, Ralph T.</i> , Analysis of weighted silk, RP498.....	669
Measurements, high voltage, RP491.....	561
Measurement of high pressures, RP470.....	271
<i>Meggers, William F.</i> , Wave lengths and zeeman effects in lanthanum spectra, RP468.....	239
—, <i>Henry Norris Russell and</i> , An analysis of lanthanum spectra (La I, La II, La III), RP497.....	625
—, <i>and C. C. Kiess</i> , Infra-red arc spectra photographed with xenocyanine, RP473.....	309
—, <i>and G. H. Dieke</i> , Infra-red spectra of helium, RP462.....	121
Metal-connected glass electrode, RP511.....	833
Metal radiation, RP478.....	413
RP493.....	583
Meter, an automatic reverberation, for the measurement of sound absorption, RP457.....	47

	Page		Page
Meter, notes on the orifice, RP459.....	61	Photographic emulsions, RP488.....	529
Meyer, J. Franklin, L. E. Barbrow and, Characteristic equations of vacuum and gas-filled tungsten-filament lamps, RP502.....	721	Photographic sensitizing dyes, RP488.....	529
Meyers, C. H., Coiled-filament resistance thermometers, RP508.....	807	Physical properties of slate, RP477.....	377
Miller, Catherine E., V. L. Chrisler and, Some of the factors which affect the measurement of sound absorption, RP465.....	175	Physical tests on slate, RP477.....	377
Misregister in offset lithography, RP480.....	427	Planimeter method of area determination, RP486.....	509
Mohler, F. L., Collisions of the first and second kind in the positive column of caesium discharge, RP485.....	493	Platinum resistance thermometers, RP508.....	807
—, Power input and dissipation in the positive column of caesium discharge, RP455.....	25	Polarization in chronic acid solutions, RP476.....	353
Moisture expansion of ceramic whiteware, RP472.....	291	Positive column of caesium discharge, collision of the first and second kind in the, RP485.....	493
Molybdenum, determination of, RP453.....	1	Positive column of caesium discharge, power input and dissipation in the, RP455.....	25
in iron, RP453.....	1	Potentiometer, a multi-range, RP506.....	781
in ores, RP453.....	1	Lindeck-Rothe type, RP506.....	781
in steel, RP453.....	1	Power input and dissipation in the positive column of caesium discharge, RP455.....	25
Mortar, adhesion to brick and steel, RP504.....	749	Pressure coefficient of intrinsic energy of gases, RP503.....	733
Multi-range potentiometer, RP506.....	781	Pressure-volume-temperature data, twin bomb method for, RP470.....	271
N		Pressures, high, accurate method for measurement of, RP470.....	271
Nickel, infra-red arc spectrum of, RP473.....	309	Properties of steel, RP454.....	9
Nitrogen in standard-sample steels, RP494.....	593	Pulse, a vacuum tube amplifier for feeble, RP461.....	115
Nonane, normal, physical constants of, RP482.....	457	R	
purification of, RP482.....	457	Radiation, electron { RP478.....	413
synthesis of, RP482.....	457	metal { RP478.....	583
Nonyl bromide, normal, crystalline modifications of, RP482.....	457	{ RP493.....	413
physical constants of, RP482.....	457	Reciprocal spherical aberration, RP466.....	187
purification of, RP482.....	457	Reduction of chromic acid, mechanism, RP476.....	353
synthesis of, RP482.....	457	Reinforcement bars, areas and tensile properties of, RP486.....	509
Notch effect in fatigue testing, RP454.....	9	Reinforced brickwork beams, RP504.....	749
Nuclear sensitization, RP488.....	529	Residue methods of analysis for steel, RP496.....	615
O		Resistance thermometers, coiled-filament resistance, RP508.....	807
Octane, normal, synthesis of, RP482.....	457	Reverberation meter, an automatic, for the measurement of sound absorption, RP457.....	47
physical constants of, RP482.....	457	Reverberation time, measurement of, RP465.....	175
purification of, RP482.....	457	Rhodium, determination of, RP489.....	547
Octane (2, 2, 4-trimethylpentane), freezing point of, RP469.....	269	Rhodium dioxide, hydrolytic precipitation of, RP489.....	547
Offset lithography, misregister, RP480.....	427	Rhodium, separation of iridium from, RP489.....	547
paper and register, RP480.....	427	solution in sulphuric acid of, RP489.....	547
register of prints, RP480.....	427	sulphate, incomplete precipitation of rhodium by hydrogen sulphide from, RP489.....	547
Optical systems, aberrations of, RP466.....	187	preparation of solutions containing, RP489.....	547
Optics, lens aberrations of, RP466.....	187	Rock, phosphate, magnesia in, RP484.....	487
Ores, determination of molybdenum in, RP453.....	1	Roofing slate, RP477.....	377
Orifice meter, notes on the, RP459.....	61	Rose, Jr., F. W., Joseph D. White and, Isolation of the three xylenes from an Oklahoma petroleum, RP501.....	711
Osgood, William R., Column curves and stress-strain diagrams, RP492.....	571	Rossini, Frederick D., The heat of formation of hydrogen chloride and some related thermodynamic data, RP499.....	679
Osmium, determination of the atomic weight of, RP271.....	279	—, and Mikkil Frandsen, The calorimetric determination of the intrinsic energy of gases as a function of the pressure. Data on oxygen and its mixtures with carbon dioxide to 40 atmospheres, at 20° C., RP503.....	733
preparation of pure, RP271.....	279	Rotating beam fatigue tests, RP454.....	9
Oxygen, variation, with pressure, of intrinsic energy of, RP503.....	733	Rubber, deterioration of vulcanized, RP464.....	163
P		hydrogen sulphide from vulcanized, RP464.....	163
Parsons, D. E., A. H. Stang, and J. W. McBurney, Shear tests of reinforced brick masonry beams, RP504.....	749	Russell, Henry Norris, and William F. Meggers, An analysis of lanthanum spectra (La I, La II, La III), RP497.....	625
Pentane, normal, physical constants of, RP482.....	457	S	
purification of, RP482.....	457	Self-inductance formula, RP479.....	419
synthesis of, RP482.....	457	Sensitization, color, RP488.....	529
Peters, Melville F., George F. Blackburn, and Paul T. Hanne, Theory of voltage dividers and their use with cathode ray oscillographs, RP460.....	81	nuclear, RP488.....	529
Petroleum, extraction of xylenes from, with liquid sulphur dioxide, RP501.....	711	Sheet steel, cellular floor, tensile properties, stress-strain curves, Young's modulus of elasticity, RP463.....	131
Petroleum, occurrence of dimethylpentane in, RP458.....	53	Silicates, thermal expansion of some, of elements in Group II of the periodic system, RP456.....	35
Petroleum, xylenes in, RP501.....	711		
Phase equilibrium diagram for system: CaO-B ₂ O ₃ , RP510.....	825		
Phosphate, detection of, in weighted silk, RP498.....	669		
Phosphate rock, magnesia in, RP484.....	487		

	Page
Silica, determination of, in steel, RP496.....	615
Silicate, detection of, in weighted silk, RP498...	669
Silk, isoelectric point of, RP490.....	557
weighted, analysis of, RP498.....	669
<i>Singer, George, C. F. Stoveburner, Lauriston S. Taylor and</i> , Effective applied voltage as an indicator of the radiation emitted by an X-ray tube, RP491....	561
Slate, physical properties and weathering characteristics of, RP477.....	377
physical properties of, RP477.....	377
physical tests on, RP477.....	377
roofing, RP477.....	377
tests of, RP477.....	377
weathering of, RP477.....	377
<i>Sligh, W. H., D. W. Kessler and</i> , Physical properties and weathering characteristics of slate, RP477.....	377
<i>Snow, Chester</i> , A simplified precision formula for the inductance of a helix with corrections for the lead-in wires, RP479...	419
<i>Snyder, W. F.</i> , An automatic reverberation meter for the measurement of sound absorption, RP457.....	47
Solenoid, inductance of, RP479.....	419
Sound absorption, measurement of, by automatic reverberation meter, RP457....	47
Sound absorption of air, RP465.....	175
Spectra, analysis of lanthanum, RP497.....	625
infra-red arc, photographed with xocyanine, RP473.....	309
infra-red, of helium, RP462.....	121
lanthanum, RP468.....	239
Spectrum, infra-red absorption, of xylenes, RP501.....	711
Spherical surface, attachment for turning on lathe, RP467.....	227
<i>Spinks, A. W., H. B. Brooks and</i> , A multi-range potentiometer and its application to the measurement of small temperature differences, RP506.....	781
Spot welds, projection spot welds, shearing strength, specimen for determining shearing strength, RP463.....	131
Standard-sample steels, nitrogen content of, RP494.....	593
<i>Stang, A. H., J. W. McBurney, D. E. Parsons and</i> , Shear tests of reinforced brick masonry beams, RP504.....	749
<i>Stang, A. H., L. R. Sweetman, and C. Gough</i> , The areas and tensile properties of deformed concrete-reinforcement bars, RP486.....	509
Steel, determination of molybdenum in, RP453.....	1
endurance properties of, RP454.....	9
properties of, RP454.....	9
residue methods of analysis for, RP496.....	615
sheet, cellular floor, tensile properties, stress-strain curves. Young's modulus of elasticity, RP463.....	131
Steels, alloy, creep in, at elevated temperatures, RP481.....	441
tensile properties of, at elevated temperatures, RP474.....	327
chromium-vanadium, creep in, RP481.....	441
fatigue limits of coated, RP454.....	9
fatigue testing of, RP454.....	9
nitrogen in standard-sample, RP494.....	593
<i>Stoneburner, C. F., George Singer, Lauriston S. Taylor and</i> , Effective applied voltage as an indicator of the radiation emitted by an X-ray tube, RP491....	561
—, <i>Lauriston S. Taylor and</i> , The low voltage X-ray intensities, RP505.....	769
Strain gages, Whittemore hand strain gage, RP463.....	131
Strength of columns, RP492.....	571
Sulphate, function in chromium plating, RP476.....	353
Sulphur dioxide (liquid), extraction of xylenes from petroleum with, RP501....	711
Sulphur, loss of, from vulcanized rubber, RP464.....	163
<i>Swanger, W. H., and R. D. France</i> , Effect of zinc coatings on the endurance properties of steel, RP454.....	

	Page
<i>Sweeny, W. T., Peter Hidnert and, Thermal expansion of lead, RP500</i> -----	703
<i>Sweetman, L. R., C. Gough, A. H. Stang and, The areas and tensile properties of deformed concrete-reinforcement bars, RP486</i> -----	509
System: CaO-B₂O₃, RP510 -----	825

T

<i>Taylor, Lauriston S., and C. F. Stoneburner,</i> The measurement of low voltage X-ray intensities, RP505.....	769
—, <i>George Singer, and C. F. Stoneburner,</i> Effective applied voltage as an indicator by the radiation emitted by an X-ray tube, RP491.....	561
—, <i>and K. L. Tucker,</i> The comparison of high-voltage X-ray generators, RP475.....	333
Temperature, effect of, on sound absorption of air, RP465.....	175
Temperatures, high, tensile properties of cast nickel-chromium-iron alloys and alloy steels at, RP474.....	327
Tensile properties of cast nickel-chromium-iron alloys and alloy steels at elevated temperatures, RP474.....	327
Tensile properties of reinforcement bars, RP486.....	509
Tests, axial loading fatigue, RP454.....	9
Tests on slate, RP477.....	377
Tests, rotating beam fatigue, RP454.....	9
Textiles, weighted silk, RP498.....	669
Thermal expansion of lead, RP500.....	703
Thermal expansion of some silicates of elements in Group II of the periodic system, RP456.....	35
Thermocouple, potentiometer used with, RP506.....	781
Thermodynamic data for hydrogen chloride, RP499.....	679
Thermometers, coiled filament resistance, RP508.....	807
<i>Thompson, J. G., and J. S. Acken,</i> Determination of alumina and silica in steel by the hydrochloric acid residue method, RP496.....	615
—, <i>and E. H. Hamilton,</i> Nitrogen content of some standard-sample steels, RP494.....	593
<i>Thompson, M. R.,</i> A metal-connected glass electrode, RP511.....	833
Tube counters, RP509.....	815
Tungsten-filament lamps, characteristic equations of, RP502.....	721
Tin, detection of, in weighted silk, RP498.....	669
Titanium, infra-red arc spectrum of, RP473.....	309
Titanous chloride, separation of rhodium from iridium by, RP489.....	547
Trimethylpentane, 2, 2, 4-freezing point of, RP469.....	269
<i>Tucker, K. L., Lauriston S. Taylor and,</i> The comparison of high voltage X-ray generators, RP475.....	333
Turning, attachment for, spherical surfaces on lathe, RP467.....	227

U

Undecane, normal, physical constants of,	
RP482-----	457
purification of, RP482-----	457
synthesis of, RP482-----	457

V

Vacuum-tungsten lamps, equation of, RP502.....	721
Variation, angle, RP493.....	583
Violent chromium, nonexistence in chromic acid, RP476.....	353
Voltage dividers for cathode ray oscillographs, RP460.....	81
Voltage dividers, theory of, and their use with cathode ray oscillographs, RP160.....	81
Vulcanized rubber, deterioration of, RP464.....	163
effect of heat on, RP464.....	163
hydrogen sulphide from, RP464.....	163

W		Page			Page
Washburn, Edward W., A calorimetric method for determining the intrinsic energy of a gas as a function of the pressure, RP487.....		521	X-ray intensities, RP505.....		769
—, A twin-bomb method for the accurate determination of pressure-volume-temperature data and a simple method for the accurate measurement of high pressures, RP470.....		271	X-ray measurements {RP475.....		333
Wave lengths, effective X-ray, RP475.....		333	{RP491.....		561
Wave lengths in lanthanum spectra, RP468.....		239	{RP505.....		769
Weathering of slate, RP477.....		377	X-ray quality {RP475.....		333
Weber, C. G., and R. M. Cobb, Register studies in offset lithography, RP480.....		427	{RP491.....		561
White, Joseph D., and F. W. Rose, jr., Isolation of the three xylenes from an Oklahoma petroleum, RP501.....		711	X-ray standardization {RP475.....		333
Whiteware, expansion of, RP472.....		291	{RP491.....		561
Whittemore, H. L., J. M. Frankland and, Tests of cellular sheet steel flooring, RP463.....		131	{RP505.....		769
Weight-length method of area determination, RP486.....		509	X-ray therapy machines {RP475.....		333
			{RP491.....		561
			X-rays, low voltage, RP505.....		769
			Xylenes, absorption by, of infra-red light, RP501.....		711
			content of, in petroleum, RP501.....		711
			infra-red absorption spectrum of, RP501.....		711
			isolation of, from petroleum, RP501.....		711
			Xylenes mixture, separation of constituents of, RP501.....		711
			Xylenes, physical properties of, RP501.....		711
			presence of, in petroleum, RP501.....		711
			Y		
			Young, J. C., A. N. Finn, F. W. Glaze and, The density of soda-lime-silica glasses as a function of the composition, RP507.....		799
			Z		
			Zeeman effect in lanthanum spectra, RP468.....		239
			Zirconium, infra-red arc spectrum of, RP473.....		309
			Zinc coatings, effect of, on the endurance properties of steel, RP454.....		9
			Zinc, detection of, in weighted silk, RP498.....		669

(Out here)

SUPERINTENDENT OF DOCUMENTS,
Government Printing Office,
Washington, D. C.

DEAR SIR: Send me the Bureau of Standards publications marked X below. I inclose remittance ¹ to cover the cost.

Mark X	Title of publication	Price		Amount inclosed
		United States, Canada, Cuba, Newfoundland, Republic of Panama	Foreign countries	
-----	Commercial Standards Monthly (one year) -----	\$1. 00	\$1. 60	-----
-----	Bureau of Standards Journal of Research ² (one year) -----	2. 50	3. 25	-----
-----	Blue buckram bound volumes 1 to 8 of above journal are now available -- each volume --	\$ 2. 75	\$ 3. 50	-----
-----	Technical News Bulletin (one year) -----	. 50	. 70	-----
-----	Standards Yearbook, 1932 -----	1. 00	1. 20	-----
-----	Total remittance -----			-----

Send to -----

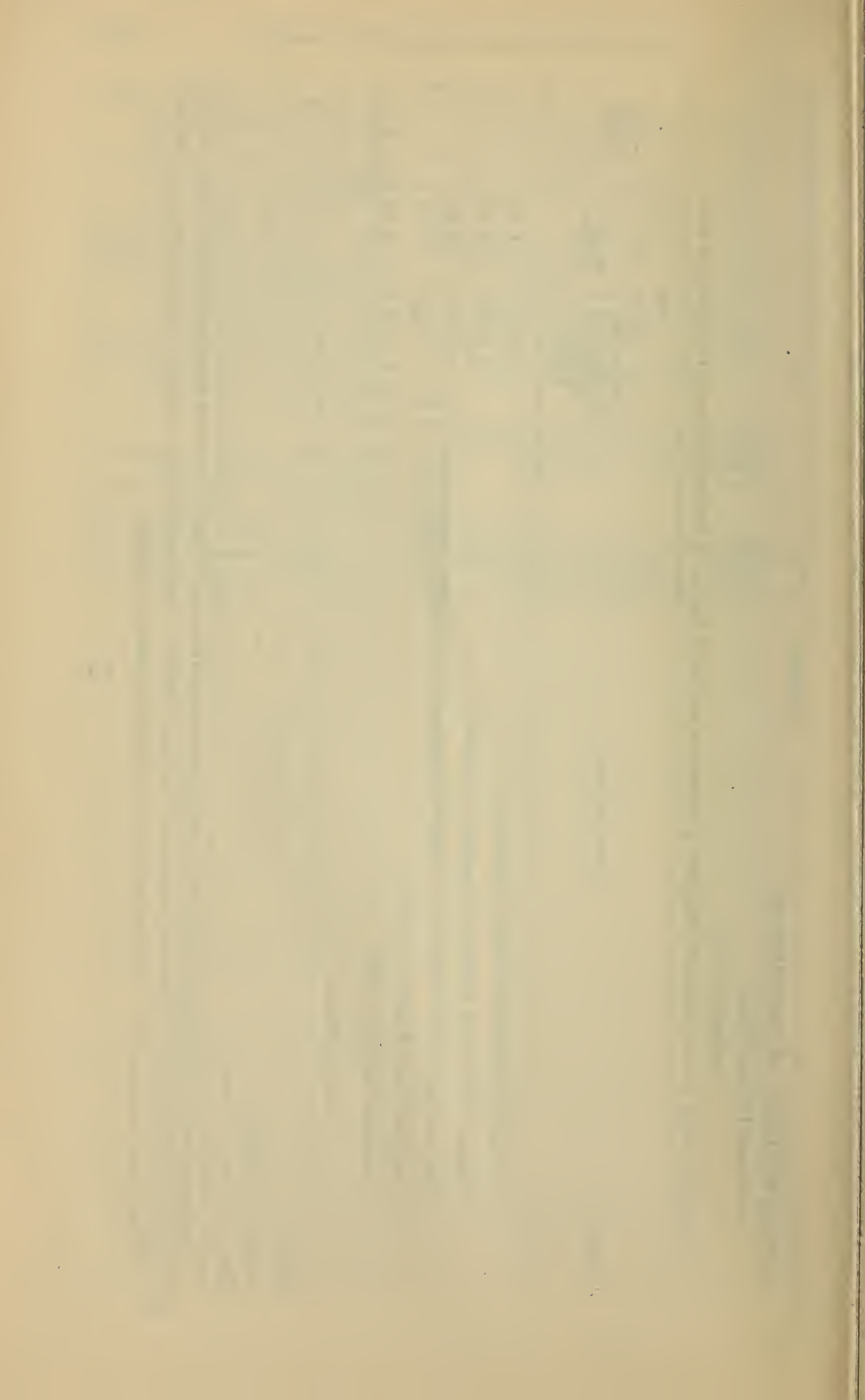
Number and Street -----

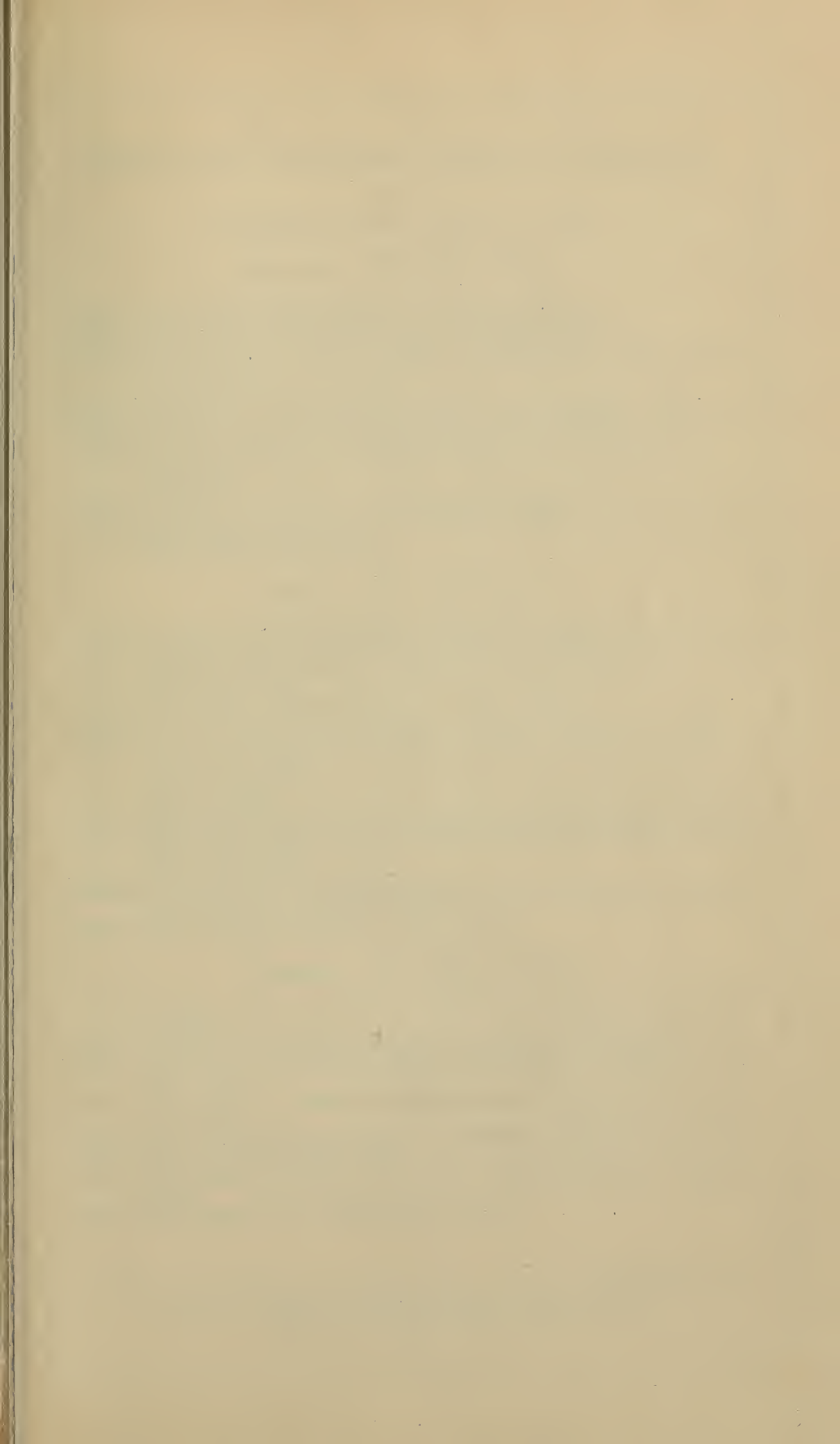
City and State (or County) -----

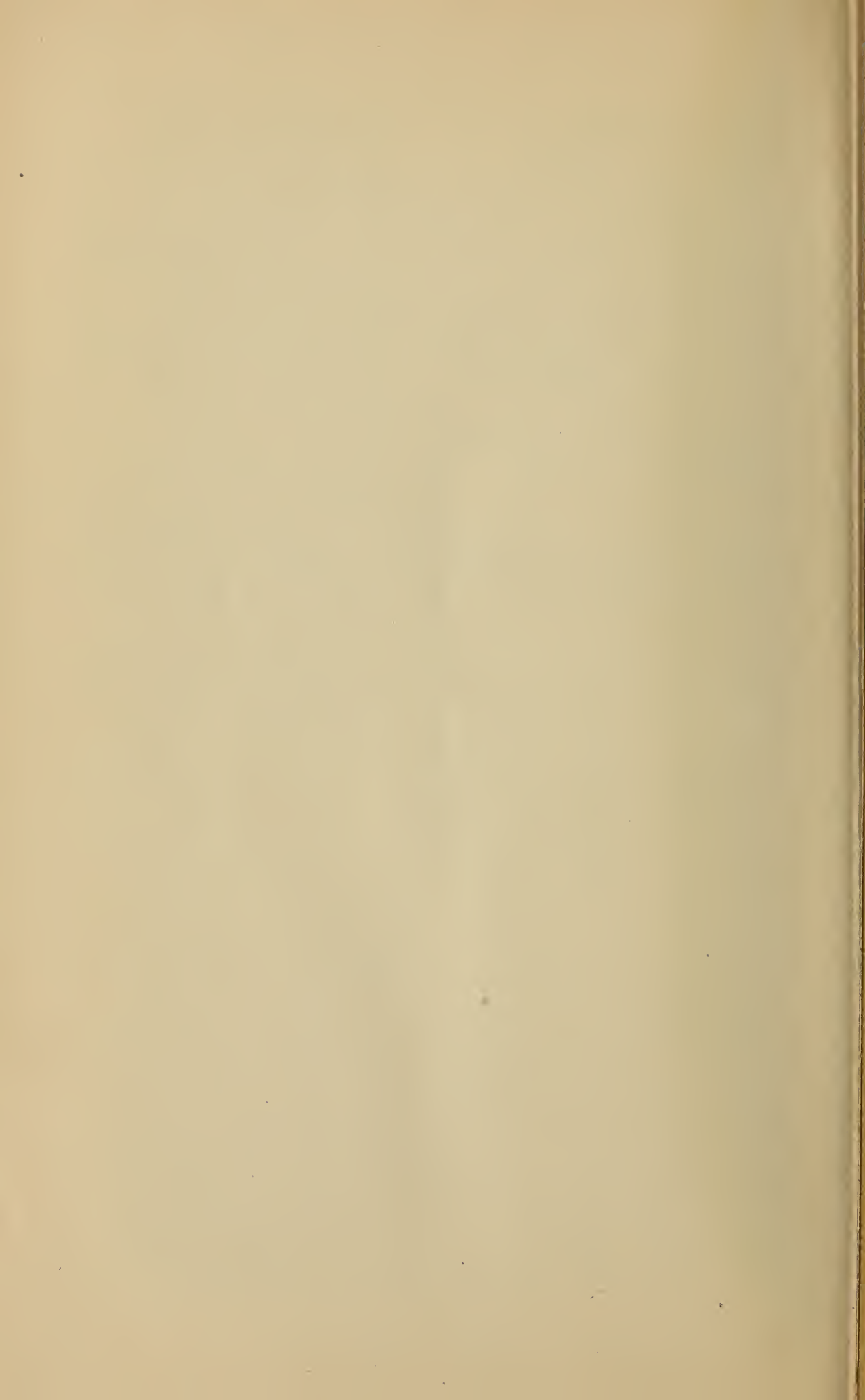
¹ Remittances should be either in the form of a post-office money order, coupons (issued for the specific purpose of purchasing Government publications), express money order, New York draft, or cash, at the sender's risk.

² This issue completes volume 9. Volume 10 will commence with the January (1933) issue. Your subscription should be submitted at once to insure starting with No. 1 of volume 10.

³ These prices are for volumes 1 to 7. Commencing with volume 8 the price will be \$2.50 and 3.25 (foreign).







BUREAU OF STANDARDS JOURNAL OF RESEARCH

CONTENTS OF RECENT NUMBERS—Continued

September, 1932 (Vol. 9, No. 3)

- RP471. A new determination of the atomic weight of osmium. Raleigh Gilchrist.
RP472. "Moisture expansion" of ceramic whiteware. R. F. Geller and A. S. Creamer.
RP473. Infra-red arc spectra photographed with xenocyanine. W. F. Meggers and C. C. Kiess.
RP474. Tensile properties of cast nickel-chromium-iron alloys and of some alloy steels at elevated temperatures. William Kahlbaum and Louis Jordan.
RP475. The comparison of high voltage X-ray generators. Lauriston S. Taylor and K. L. Tucker.
RP476. The structure of the chromic acid plating bath: the theory of chromium deposition. Charles Kasper.
RP477. Physical properties and weathering characteristics of slate. D. W. Kessler and W. H. Sligh.
RP478. Radiation from caesium and other metals bombarded by slow electrons. C. Boeckner.
RP479. A simplified precision formula for the inductance of a helix with corrections for the lead-in wires. Chester Snow.
RP480. Register studies in offset lithography. C. G. Weber and R. M. Cobb.
RP481. Creep at elevated temperatures in chromium-vanadium steels containing tungsten or molybdenum. William Kahlbaum and Louis Jordan.

October, 1932 (Vol. 9, No. 4)

- RP482. The synthesis, purification, and certain physical constants of the normal hydrocarbons from pentane to dodecane, of *n*-amyl bromide and of *n*-nonyl bromide. B. J. Mair.
RP483. A study of some ceramic bodies of low absorption maturing at temperatures below 1,000° C. R. F. Geller and D. N. Evans.
RP484. The determination of magnesium in phosphate rock. James I. Hoffman.
RP485. Collisions of the first and second kind in the positive column of caesium discharge. F. L. Mohler.
RP486. The areas and tensile properties of deformed concrete-reinforcement bars. A. H. Stang, L. R. Sweetman, and C. Gough.
RP487. A calorimetric method for determining the intrinsic energy of a gas as a function of the pressure. Edward W. Washburn.
RP488. The photographic emulsion; variables in sensitization by dyes. Burt H. Carroll and Donald Hubbard.
RP489. A method for the separation of rhodium from iridium and the gravimetric determination of these metals. Raleigh Gilchrist.
RP490. The isoelectric point of silk. Milton Harris.
RP491. Effective applied voltage as an indicator of the radiation emitted by an X-ray tube. Lauriston S. Taylor, George Singer, and C. F. Stoneburner.
RP492. Column curves and stress-strain diagrams. William R. Osgood.

November, 1932 (Vol. 9, No. 5)

- RP493. The variation with angle of emission of the radiation from metals bombarded by slow electrons. C. Boeckner.
RP494. Nitrogen content of some standard sample steels. J. G. Thompson and E. H. Hamilton.
RP495. Analytical methods for the determination of levulose in crude products. R. F. Jackson, J. A. Mathews, and W. D. Chase.
RP496. Determination of alumina and silica in steel by the hydrochloric acid residue method. J. G. Thompson and J. S. Acken.
RP497. An analysis of lanthanum spectra (La I, La II, La III). Henry Norris Russell and William F. Meggers.
RP498. Analysis of weighted silk. Ralph T. Mease.
RP499. The heat of formation of hydrogen chloride and some related thermo-dynamic data. Frederick D. Rossini.
RP500. Thermal expansion of lead. Peter Hidnert and W. T. Sweeney.

*A monthly periodical of pure and applied science
published by our National Government*

BUREAU OF STANDARDS JOURNAL OF RESEARCH

PUBLISHED AT WASHINGTON, D. C.

¶ With the July issue, the JOURNAL begins its ninth semiannual volume. The JOURNAL contains the bureau's research papers and critical reviews in the fields of science and technology. These will be comparable in interest and importance with the bureau papers formerly issued as Scientific and Technologic Papers.

¶ Several hundred researches are always in progress at the Bureau of Standards and the outlet for the results is the "BUREAU OF STANDARDS JOURNAL OF RESEARCH."

¶ If you are interested in following the latest developments in science and technology you need the BUREAU OF STANDARDS JOURNAL OF RESEARCH. If you are a subscriber, renew your subscription promptly; if not, your subscription will be appreciated. Copies are limited and it is not always possible to supply back numbers.

PRICES

New subscription (or renewal) ¹ to Journal of Research for United States, Canada, Cuba, Mexico, New- foundland, and the Republic of Panama (vol. 8, and thereafter)		\$2.50 *
Blue buckram bound {	Volume 1, July to December, 1928	\$2.75 *
	Volume 2, January to June, 1929	\$2.75 *
	Volume 3, July to December, 1929	\$2.75 *
	Volume 4, January to June, 1930	\$2.75 *
	Volume 5, July to December, 1930	\$2.75 *
	Volume 6, January to June, 1931	\$2.75 *
	Volume 7, July to December, 1931	\$2.75 *
	Volume 8, January to June, 1932	\$2.50 *

¹ Yearly subscription, 12 issues.

* For other countries, add 75 cents.

Research papers (printed separately with durable paper cover and priced according to cost)—see list of research papers on cover pages 2 and 3 of this issue.

Address orders only to
Superintendent of Documents
Government Printing Office
Washington, D. C.

*The value of prompt and adequate news of the latest research results
can not be measured by ordinary standards. They are permanent
gainful assets for the expert. He can not afford
to be without such basic sources*

